REMARKS

The Examiner has objected to the drawings under 37 CFR 1.83(a) on the basis that the second solvent recited in claim 4 is not shown in the drawings. This objection is respectfully traversed. Figure 2 clearly shows a solvent 32 in the tank 30. Lines 9-11 on page 5 of the present specification state that different types of solvents, such as mineral spirits, isopropyl alcohol or a combination thereof, can be used in the tank 30. Lines 15-20 on page 5 describe that the solvent is removed from the tank 30 via outlet 36. Lines 13-18 on page 6 describe that the filter 20 is soaked in mineral spirits for about 30 minutes and is subsequently soaked in isopropyl alcohol for 30 minutes. This passage also states that both solvents are passed through the secondary filter 34, which implies that both solvents are contained in tank 30. In light of these passages in the present specification, applicant respectfully submits that one of ordinary skill in the art would understand that the tank 30 could hold different solvents at different times. Moreover, it is submitted that one of ordinary skill in the art would appreciate that the schematic representation of the "second" solvent would be identical to that of the "first" solvent. Consequently, it is a fair conclusion that the solvent 32 shown in Figure 2 represents both the first and second solvents of claim 4 and that a separate illustration of the "second" solvent is not needed for a complete understanding of the claimed invention. Accordingly, applicants request that the objection to the drawings being withdrawn.

The Examiner has rejected claims 4 and 5 under 35 U.S.C. § 112, first paragraph, as containing subject matter not contained in the specification. However, lines 13-18 on page 6 of the present specification recite that the primary filter 20 is first soaked in about 300 milliliters of mineral spirits for about 30 minutes, and then it is subsequently soaked I about 300 milliliters of isopropyl alcohol for about 30 minutes. Both of the solvents are passed through the secondary filer 34. Applicant respectfully submits that this passage fully supports

the subject matter of claims 4 and 5 and that the rejection of claims 4 and 5 should be withdrawn.

The Examiner has rejected claims 1, 10 and 11 under 35 U.S.C. § 102(b) as being anticipated by Japanese Patent 10170504A (Sakai et al). This ground of rejection is respectfully traversed.

Independent claim 1 recites a method of performing a clean check on a gearbox. The method includes the steps of flushing an oil-based fluid through the gearbox and then through a filter; weighing the filter to determine contaminant weight; and comparing the contaminant weight to a predetermined level.

Sakai et al, as described in the abstract, relates to enhancing the accuracy and convenience of a measuring apparatus that quantitatively evaluates a contaminant dissolved in a refrigerator oil. A refrigerant together with a refrigerant oil in which a contaminant has been dissolved is poured into a sample container 11. The mixed solution of the refrigerant and refrigerant oil is then passed through a filter in the filter holder 12 and collected in a collection container 13. The contaminant is evaluated quantitatively based on the change in weight of the filter. As such, Sakai et al does not conduct a clean check on a gearbox as required by claim 1. There is simply no mention of flushing an oil-based fluid, or any fluid, through a gearbox and then through a filter. Sakai et al passes a refrigerant-refrigerant oil mixture from the sample container 11, through the filter holder 12 and to the collection container 13. While the filter holder 12 contains a filter that is presumably similar to the claimed filter, neither the sample container 11 nor the collection container 13 remotely classify as a gearbox. Both of these elements are clearly simple containers designed to hold the refrigerant mixture.

The Examiner asserts that Sakai et al discloses a gearbox in the form of a compressor in a refrigerator. However, there is no discussion in the

abstract of flushing a fluid through a compressor. Again, Sakai et al only discloses a refrigerant-refrigerant oil mixture from the sample container 11, through the filter holder 12 and to the collection container 13. Even assuming for the sake of argument that the refrigerant oil poured into the sample container 11 has previously passed through a compressor in a refrigerator, a refrigerator compressor is simply not equivalent to a gearbox. These are two completely distinct devices. Accordingly, Sakai et al does not disclose the claimed step of flushing an oil-based fluid through a gearbox.

In addition, there is no indication that the testing performed by Sakai et al is a "clean check" of a gearbox or any other device. While Sakai et al does weigh the filter to quantitatively evaluate contaminant, there is no mention of determining that a gearbox (or any other device) is acceptable if the contaminant weight is below a predetermined level, as required by claim 1.

For the above reasons, it is respectfully submitted that independent claim 1 is allowable over Sakai et al. Claims 10 and 11 depend from claim 1 and are thus also believed to be allowable. Furthermore, these dependent claims set forth further limitations not met by Sakai et al. In particular, Sakai et al does not repeating the process if the contaminant weight is above a predetermined level contrary to the Examiner's assertion.

The Examiner has rejected claims 1, 6, 9 and 11 under 35 U.S.C. § 103(a) as being unpatentable over Boyle et al in view of Sakai et al and claims 2 and 3 under 35 U.S.C. § 103(a) as being unpatentable over Boyle et al in view of Sakai et al and further in view of Kodaira et al and Randolph. These grounds of rejection are respectfully traversed.

Boyle et al discloses a system for measuring the quality and level of lubricant in an internal combustion engine 2. The system includes an engine lubricant sump 5 containing the engine lubricant. Lubricant is pumped from the sump 5 via a pump 7. The lubricant is caused to flow through fluid line 8 and

filter 9 and then onto moving engine parts. The lubricant then returns to the sump 5. As described in column 4 of Boyle et al, the system also includes means for diverting a small amount of the lubricant that has passed through the filter 9 to a diagnostic cell 27. The diagnostic cell 27 contains sensors 28 for monitoring certain qualities of the lubricant. If the lubricant is determined to have insufficient quality by a controller 30, the lubricant is diverted to a reservoir 32. The internal combustion engine 2 also includes a fuel tank 11. Fuel from the fuel tank 11 is pumped by pump 12 through a fuel filter 13 and meter 14 to fuel injectors 4.

Contrary to the Examiner's contention, applicant submits that Boyle et al does not teach flushing an oil-based fluid through a gearbox and then through a filter. The Examiner asserts that that element 2 of Boyle et al is a gearbox. However, Boyle et al clearly identifies element 2 as an internal combustion engine, which is simply not a gearbox. Although internal combustion engines often have gearboxes associated therewith, there is no mention in Boyle et al of such a gearbox and certainly no mention of flushing a gearbox with a fluid. The lubricant flows from sump 5, through the filter 9, then through the engine 2, and then back to the sump 5 for recirculation. There is no mention of the lubricant flowing through a gearbox.

Furthermore, even assuming for the sake of argument that the engine 2 was a gearbox, Boyle et al would still fail to disclose the claimed feature of flushing an oil-based fluid through a gearbox and <u>then through a filter</u>. Instead, Boyle et al teaches passing the lubricant through the filter 9 first and then through the engine 2.

Applicant also disagrees with the Examiner's contention that Boyle et al discloses "flushing an oil-based fluid through a preliminary filter 13 prior to flushing the oil-based fluid through the gearbox." The so-called "preliminary filter 13" is actually a fuel filter that is part of the fuel delivery system for the engine 2.

As described in column 3, lines 61-67 of Boyle et al, fuel from the fuel tank 11 is pumped through the fuel filter 13 and meter 14 and then to the fuel injectors 4. The fuel injectors 4 inject metered amounts of fuel into the combustion chambers 16 of the engine 2.

The Examiner acknowledges that Boyle et al does not disclose the steps of weighing the filter to determine contaminant weight and comparing the contaminant weight to a predetermined level. In light of this deficiency, the Examiner alleges that it would have been obvious to modify the oil quality determining method of Boyle et al with the contaminant weight determining method of Sakai et al. However, applicant submits that it would not have been to modify Boyle et al with Sakai et al. First, Boyle et al involves monitoring engine lubricant in an internal combustion engine and Sakai et al involves evaluating refrigerant oil. These two references pertain to non-analogous arts. One of ordinary skill in the art would not look to the refrigeration art for teachings of how to monitor engine lubricant. Second, Boyle et al discloses means for monitoring the quality of the engine lubricant during engine operation. The modification set forth by the Examiner would require the engine to be shut down so that the filter could be removed and weighed. This goes against the fundamental nature of the Boyle et al device. Accordingly, there is no motivation to modify Boyle et al in the manner described by the Examiner.

For the above reasons, it is respectfully submitted that independent claim 1 is allowable over Boyle et al in view of Sakai et al. Claims 2, 3, 6, 9 and 11 depend from claim 1 and are thus also believed to be allowable. With respect to claims 2 and 3, the Examiner includes Kodaira et al and Randolph in combination with Boyle et al and Sakai et al. The Examiner relies on Kodaira et al for a teaching of soaking a device in solvent. (There is no discussion in the office action of what Randolph teaches.) However, Kodaira et al soaks the device to measure the amount of machining oil left on the surface of a metal

product after metalworking. This would not suggest to one of ordinary skill to soak a filter to remove oil therein. Furthermore, Kodaira et al and Randolph do not overcome the above-noted failure of Boyle et al and Sakai et al to disclose the steps of independent claim 1. With respect to claims 6, 9 and 11, applicant disagrees with the contention that these claims recite obvious design expedients.

The Examiner has rejected claims 21, 22 and 29 under 35 U.S.C. § 102(e) as being anticipated by Boyle et al, claims 23, 24 and 30 under 35 U.S.C. § 103(a) as being unpatentable over Boyle et al, and claims 25-28 and 31 under 35 U.S.C. § 103(a) as being unpatentable over Boyle et al in view of Randolph. These grounds of rejection are respectfully traversed.

Independent claim 21 recites a system for performing a clean check on a gearbox. The system includes a source of an oil-based fluid fluidly connected to the gearbox inlet and a first filter fluidly connected to the gearbox outlet. A preliminary filter is fluidly connected between the oil-based fluid source and the gearbox inlet. The system also includes means for causing the oil-based fluid to flow through the gearbox, the preliminary filter, and the first filter.

The Examiner contends that the fuel F of Boyle et al is the claimed oil-based fluid, the engine lubricant filter 9 is the claimed first filter, and the fuel filter 13 is the claimed preliminary filter. The Examiner also contends that the pumps 7 and 12 of Boyle et al cause the fuel F to flow through "the gearbox, the preliminary filter, and the first filter." However, as discussed above, Boyle et al discloses a system in which engine lubricant is pumped by pump 7 from the sump 5 through fluid line 8 and filter 9 and then onto moving engine parts. The lubricant then returns to the sump 5. Separately, fuel F from the fuel tank 11 is pumped by pump 12 through a fuel filter 13 and meter 14 to fuel injectors 4. Boyle et al does not describe an oil-based fluid from a single source that is caused to flow through the engine lubricant filter 9 and the fuel filter 13. Instead, engine lubricant from the sump 5 is pumped through the engine lubricant filter 9,

and fuel from the fuel tank 11 is pumped through the fuel filter 13. Thus, even if the engine lubricant filter 9 and the fuel filter 13 were equivalent to the claimed first and preliminary filters, respectively (which applicant does not concede), Boyle et al still fails to disclose a means for causing a single oil-based fluid to flow through both filters.

Furthermore, as discussed above, the internal combustion engine 2 of Boyle et al is not a gearbox; Boyle et al does not specifically disclose a gearbox and certainly does not teach or suggest flushing a gearbox with an oil-based fluid. Thus, Boyle et al does not disclose the claim 21 recitation of a means for causing an oil-based fluid to flow through a gearbox.

For the above reasons, it is respectfully submitted that independent claim 21 is allowable over Boyle et al. Claims 22-28, 30 and 31 depend from claim 21 and are thus also believed to be allowable. Furthermore, these dependent claims set forth further limitations not met by Boyle et al or Boyle et al in combination with Randolph. The Examiner relies on Randolph for a teaching of soaking a device in solvent. However, Randolph does not overcome the above-noted failure of Boyle et al to disclose all of the elements of independent claim 21.

Applicant notes with appreciation the indication that claims 12-20 are allowable over the prior art of record. Applicant also notes that none of claims 4, 5, 7 and 8 have been rejected on the basis of prior art. Applicant submits that none of these claims are taught or suggested by the prior art.

In view of the above, it is submitted that the claims are in condition for allowance. Reconsideration of the objections and rejections is requested. Allowance of claims 1-28, 30 and 31 at an early date is solicited.

Respectfully submitted,

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